

Listing of Claims

1. - 5. (Canceled)

6. (Currently amended) A method of producing a high oil phenotype in a plant, said method comprising:

- a) introducing into progenitor cells of the plant a plant transformation vector comprising a heterologous constitutive promoter operatively linked to a nucleotide sequence that encodes or is complementary to a sequence that encodes a HIO32.2 polypeptide comprising the amino acid sequence of SEQ ID NO:2, or having at least 95% sequence identity to the amino acid sequence of SEQ ID NO:2 or an ortholog thereof, to produce transformed cells overexpressing the HIO32.2 polypeptide; and
- b) growing the transformed progenitor cells to produce a transgenic plant, ~~wherein said polynucleotide sequence is expressed;~~ and
- c) identifying a high oil phenotype in said transgenic plant by measuring oil content of the transgenic plant said and selecting a transgenic plant exhibits an altered that possesses a higher oil content phenotype relative to a plant of the same species that does not comprise the plant transformation vector control plants.

7. - 15. (Canceled)

16. (New) The method claim 6, wherein the nucleotide sequence encodes a HIO32.2 polypeptide consisting of an amino acid sequence having at least 95% sequence identity to the amino acid sequence of SEQ ID NO: 2.

17. (New) The method of claim 6, wherein the nucleotide sequence that encodes the HIO32.2 polypeptide comprises the amino acid sequence of SEQ ID NO:2.

18. (New) The method of claim 17, wherein the nucleotide sequence that encodes the HIO32.2 polypeptide consists of the amino acid sequence of SEQ ID NO:2.